

CAUSE NO. _____

ZACHERY LEE LEATHERWOOD,	§	IN THE DISTRICT COURT OF
Individually and as Next Friend and	§	
Natural Father of XXXXXXXXXX XXXXX	§	
XXXXXXXXXXXX and XXXXXXXXXX XXX	§	
XXXXXXXXXXXX, Minors	§	
	§	
vs.	§	JEFFERSON COUNTY, TEXAS
	§	
BECHTEL OIL, GAS AND CHEMICALS,	§	
INC. and ECHO MAINTENANCE, L.L.C.	§	____ JUDICIAL DISTRICT

ORIGINAL PETITION AND REQUEST FOR DISCLOSURE

TO THE HONORABLE JUDGE OF SAID COURT:

COMES NOW, ZACHERY LEE LEATHERWOOD, Individually and as Next Friend and Natural Father of XXXXXXXXXX XXXXX XXXXXXXXXXXXXXX and XXXXXXXXXX XXX XXXXXXXXXXXXXXX, Minors, hereinafter referred to in all his capacities as “Plaintiff,” and files this Original Petition complaining of BECHTEL OIL, GAS AND CHEMICALS, INC. and ECHO MAINTENANCE, L.L.C. and for cause of action would respectfully show this Honorable Court the following:

I.

Pursuant to Rule 190.4 of the Texas Rules of Civil Procedure, Plaintiff respectfully requests that discovery be conducted under Level 3 and that a discovery control plan be entered to govern discovery in this case.

II.

Plaintiff ZACHERY LEE LEATHERWOOD, Individually and as Next Friend and Natural Father of XXXXXXXXXX XXXXX XXXXXXXXXXXXXXX and XXXXXXXXXX XXX XXXXXXXXXXXXXXX, Minors, is a resident of Harris County, Texas.



Plaintiff brings this action as an individual beneficiary and as the representative of his two minor daughters who are also beneficiaries entitled to recover damages as provided by the Texas Wrongful Death Statute, Tex. Civ. Prac. & Rem. Code Ann. § 71.001, et seq., and all other applicable laws, and reserves the right to amend this pleading accordingly.

Defendant BECHTEL OIL, GAS AND CHEMICALS, INC. (hereinafter “BECHTEL”) is a Delaware corporation which is authorized to do and is doing business in the State of Texas and maintains a place of business in Beaumont, Jefferson County, Texas. BECHTEL may be served with process through its registered agent for service as follows: C T Corporation System, 1999 Bryan St., Ste. 900, Dallas, TX 75201-3136.

Defendant ECHO MAINTENANCE, L.L.C. (hereinafter “ECHO”) is a Texas limited liability company which is authorized to do and is doing business in the State of Texas and maintains a principal place of business in Port Arthur, Jefferson County, Texas. ECHO may be served with process through its registered agent for service as follows: Michael P. Roebuck, 6711 Twin City Highway, Port Arthur, Texas 77642.

III.

Venue is proper in the county in which this lawsuit has been filed on the grounds that at all times material to this lawsuit and to the filing of this lawsuit, all or a substantial part of the events or omissions giving rise to the claim occurred in Jefferson County, Texas and the non-natural person Defendant ECHO has a principal office in Jefferson County, Texas. Since Plaintiff has independently established proper venue against one or more of the Defendants, this Court also has venue of all the Defendants and all claims or actions arising out of the same transaction, incident, or series of transactions or incidents.

IV.

Defendant BECHTEL was engaged to upgrade the ExxonMobil Beaumont refinery and construct ExxonMobil's new SCANfining unit. On or about December 1, 2017, YESENIA CORONADO ESPINOZA (also referred to herein as "Decedent"), an employee of Defendant ECHO, was fatally injured when she was struck by a pipe ("Incident Pipe") that was being moved during the construction of the new SCANfining unit at the refinery.

V.

At the time of and on the occasion made the subject of this lawsuit, Defendant BECHTEL, including its employees, agents and/or representatives, were in control of the operations and construction of the SCANfining unit at the ExxonMobil Beaumont refinery, and engaged in certain acts and omissions constituting negligence and gross negligence and such acts and omissions, among others, were as follows:

1. In failing to have appropriate safety protocols in place at the facility in question to ensure the safe handling of materials, such as the Incident Pipe;
2. In failing to develop, implement and follow a proper and adequate rigging and lift plan to lift and/or maneuver the Incident Pipe;
3. In using improper equipment and methods to lift and/or maneuver the Incident Pipe such that affected personnel, including Flaggers, Helpers and other personnel involved, were placed in harm's way with regard to the rigging and the load being lifted;
4. In failing to ensure its employees, agents, and/or representatives were familiar with safety-related work practices, safety procedures, and safety requirements related to the job they were performing;
5. In failing to ensure that its employees, agents, and/or representatives were adequately trained with regard to proper material handling and rigging;
6. In failing to properly handle the Incident Pipe while trying to position it;
7. In failing to properly rig and inspect the Incident Pipe to be moved and/or handled;
8. In failing to ensure that no personnel were in close proximity or under the Incident Pipe which was a suspended load, while it was being lifted and/or moved;
9. In failing to have an adequate and proper Rigging or Lift Plan in place to safely move the Incident Pipe;

10. In failing to ensure its employees, agents, and/or representatives were trained to competently develop, manage, implement and use industry accepted Rigging and Lift Plans; and
11. In rigging the Incident Pipe in such a manner that when it was lifted it could swing, and/or rotate.

At all material times hereto, Defendant BECHTEL was acting by and through its employees, agents, and/or representatives by estoppel and Plaintiff hereby invokes the doctrine of *respondeat superior* under which Defendant BECHTEL is vicariously liable for the acts of its employees, agents, and/or representatives.

VI.

The acts and omissions of Defendant BECHTEL constituting negligence and gross negligence described herein were each a proximate cause of the incident made the basis of this lawsuit, the resulting death of YESENIA CORONADO ESPINOZA, and the injuries and damages sustained by the Plaintiff and his minor daughters. Defendant BECHTEL's acts and omissions constituting gross negligence were such that when viewed objectively involved an extreme degree of risk, considering the probability and magnitude of the potential harm to others, including YESENIA CORONADO ESPINOZA, and of which Defendant BECHTEL had actual, subjective awareness of the risk involved but nevertheless proceeded with conscious indifference to the rights, safety, and welfare of others, including YESENIA CORONADO ESPINOZA. Plaintiff therefore seeks to recover exemplary damages against Defendant BECHTEL as allowed by Tex. Civ. Prac. & Rem. Code Ann. § 41 based on Defendant BECHTEL's gross negligence in causing the incident made the basis of this lawsuit and the tragic death of YESENIA CORONADO ESPINOZA.

VII.

At the time of and on the occasion made the subject of this lawsuit, Defendant ECHO, including its employees, agents, and/or representatives, engaged in certain acts and omissions constituting negligence and gross negligence and such acts and omissions, among others, were as follows:

1. In failing to provide a safe place in which to work, free from recognized hazards, that would cause or likely cause death or serious physical harm;
2. In failing to have appropriate safety protocols in place at the facility in question to ensure the safe handling of materials, such as the Incident Pipe;
3. In failing to develop, implement and follow a proper and adequate rigging and lift plan to lift and/or maneuver the Incident Pipe;
4. In using improper equipment and methods to lift and/or maneuver the Incident Pipe such that affected personnel, including Flaggers, Helpers and other personnel involved, were placed in harm's way with regard to the rigging and the load being lifted;
5. In failing to ensure its employees, agents, and/or representatives were familiar with safety-related work practices, safety procedures, and safety requirements related to the job they were performing;
6. In failing to ensure that its employees, agents, and/or representatives were adequately trained with regard to proper material handling and rigging;
7. In failing to properly handle the Incident Pipe while trying to position it;
8. In failing to properly rig and inspect the Incident Pipe to be moved and/or handled;
9. In failing to ensure that no personnel were in close proximity or under the Incident Pipe which was a suspended load, while it was being lifted and/or moved;
10. In failing to have an adequate and proper Rigging or Lift Plan in place to safely move the Incident Pipe;
11. In failing to ensure its employees, agents, and/or representatives were trained to competently develop, manage, implement and use industry accepted Rigging and Lift Plans; and
12. In rigging the Incident Pipe in such a manner that when it was lifted it could swing, and/or rotate.

At all material times hereto, Defendant ECHO was acting by and through its employees, agents, and/or representatives by estoppel and Plaintiff hereby invokes the doctrine of

respondeat superior under which Defendant ECHO is vicariously liable for the acts of its employees, agents, and/or representatives.

VIII.

The acts and omissions of Defendant ECHO constituting negligence and gross negligence described herein were each a proximate cause of the incident made the basis of this lawsuit, the resulting death of YESENIA CORONADO ESPINOZA, and the injuries and damages sustained by the Plaintiff and his minor daughters. Defendant ECHO's acts and omissions constituting gross negligence were such that when viewed objectively involved an extreme degree of risk, considering the probability and magnitude of the potential harm to others, including YESENIA CORONADO ESPINOZA, and of which Defendant ECHO had actual, subjective awareness of the risk involved but nevertheless proceeded with conscious indifference to the rights, safety, and welfare of others, including YESENIA CORONADO ESPINOZA. Plaintiff therefor seeks to recover exemplary damages against Defendant ECHO as allowed by Tex. Civ. Prac. & Rem. Code Ann. § 41 based on Defendant ECHO's gross negligence in causing the incident made the basis of this lawsuit and the tragic death of YESENIA CORONADO ESPINOZA.

Plaintiff further seeks to recover punitive and exemplary damages against Defendant ECHO pursuant to Tex. Const. art. XVI, § 26 and the applicable provisions of the Texas Labor Code for gross negligence at common law. Defendant ECHO's acts and omissions constituted a reckless disregard for and were the result of conscious indifference to the rights, welfare, and safety of others, including YESENIA CORONADO ESPINOZA. Defendant ECHO was aware that its acts and omissions created an extreme degree of risk of serious injury to others, including YESENIA CORONADO ESPINOZA, but nevertheless proceeded with conscious indifference to the rights, safety, and welfare of others, including YESENIA CORONADO ESPINOZA.

IX.

A Certificate of Merit is being filed contemporaneously with this Original Petition and is attached hereto as “Exhibit 1”.

X.

As a result of the incident made the basis of this lawsuit and the death of YESENIA CORONADO ESPINOZA, Plaintiff and his minor daughters have sustained substantial damages.

At the time of the incident made the basis of this lawsuit, Decedent YESENIA CORONADO ESPINOZA was 31 years and 10 months of age, was in good health, and had an additional life expectancy of 55 years, according to the applicable United States Life Table, a certified copy of which will be used in evidence at the trial of this case. Decedent was the spouse of Plaintiff and the natural mother of the two minor children made party to this suit. At the time of her death, YESENIA CORONADO ESPINOZA was employed and earning an income.

As a further result of the subject incident, Plaintiff has sustained in the past, and in reasonable probability will sustain in the future, substantial pecuniary loss, including the loss of care, maintenance, support, services, household services, advice, counsel, and reasonable contributions of a pecuniary value that he would, in reasonable probability, have received from his wife, YESENIA CORONADO ESPINOZA, had she lived. Additionally, Plaintiff has sustained in the past, and in reasonable probability will sustain in the future, the loss of companionship and society, including the loss of the positive benefits flowing from the love, comfort, companionship, and society that he would, in reasonable probability, have received from his wife, YESENIA CORONADO ESPINOZA, had she lived, and has sustained in the

past, and in reasonable probability will sustain in the future, significant mental anguish, including the emotional pain, torment, and suffering experienced by him because of the death of his wife, YESENIA CORONADO ESPINOZA.

As a further result of the subject incident, the minor children of decedent YESENIA CORONADO ESPINOZA made party to this lawsuit, XXXXXXXX XXXXX XXXXXXXXXXXXX and XXXXXXXX XXX XXXXXXXXXXXXX, have sustained in the past, and in reasonable probability will sustain in the future, substantial pecuniary loss, including the loss of care, maintenance, support, services, education, advice, counsel, and contributions of pecuniary value that they would in reasonable probability have received from their mother, YESENIA CORONADO ESPINOZA, in her lifetime had she lived. They have further sustained in the past and in reasonable probability will sustain in the future, the loss of companionship and society, including the loss of the positive benefits flowing from the love, comfort, companionship, and society that they would, in reasonable probability, have received from their mother, YESENIA CORONADO ESPINOZA, had she lived; and have sustained in the past, and in reasonable probability will sustain in the future, significant mental anguish, including the emotional pain, torment, and suffering experienced by them because of the death of their mother, YESENIA CORONADO ESPINOZA.

As a further result of the subject incident, the minor children made party to this lawsuit, XXXXXXXX XXXXX XXXXXXXXXXXXX and XXXXXXXX XXX XXXXXXXXXXXXX, have sustained a loss of inheritance, including the loss of the present value of the assets that their mother, Decedent YESENIA CORONADO ESPINOZA, in reasonable probability, would have added to the estate and left at her natural death to her daughters.

Plaintiff brings this suit against Defendants BECHTEL and ECHO as the next friend and natural father of XXXXXXXX XXXXX XXXXXXXXXXXXX and XXXXXXXX XXX XXXXXXXXXXXXX, minors, for the damages sustained by them as described above.

In view of all matters alleged herein, the sum of money, if paid now in cash, that would fairly and reasonably compensate the Plaintiff and his minor daughters for their actual damages is a sum of money substantially in excess of the minimum jurisdictional limits of this Court and to be determined by the jury and in excess of One Million and No/Hundredths (\$1,000,000.00) Dollars. The sum of money, if paid now in cash, for exemplary damages is a sum of money to be determined by the jury.

Plaintiff pleads for any and all prejudgment and post-judgment interest.

XI.

Pursuant to Tex. R. Civ. P. 194, Plaintiff requests that Defendants disclose, within 50 days of service of this Request, the information or material described in Rule 194.2(a)-(l).

XII.

PLAINTIFF RESPECTFULLY REQUESTS A TRIAL BY JURY. The jury fee is being paid with the filing of this petition.

WHEREFORE, PREMISES CONSIDERED, Plaintiff prays that Defendants BECHTEL OIL, GAS AND CHEMICALS, INC. and ECHO MAINTENANCE, L.L.C. be cited to appear and answer herein; that upon trial hereof Plaintiff and his minor children have judgment of the Court against the Defendants in a total amount of money substantially in excess of the minimum jurisdictional limit of this Court and in an amount in excess of One Million and No/Hundredths (\$1,000,000.00) Dollars; for actual and exemplary damages, together with prejudgment and post-judgment interest as provided by applicable laws; for all costs of court; and for all such other and

further relief, both general and special, legal and equitable, to which he has shown or may show them justly entitled.

Respectfully submitted,

MITHOFF LAW

/s/ Janie L. Jordan

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ZACHERY LEE LEATHERWOOD,	§	IN THE DISTRICT COURT OF
Individually and as Next Friend and	§	
Natural Father of XXXXXXXX XXXXX	§	
XXXXXXXXXXXX and XXXXXXXX XXX	§	
XXXXXXXXXXXX, Minors	§	
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vs.	§	JEFFERSON COUNTY, TEXAS
	§	
BECHTEL OIL, GAS AND CHEMICALS,	§	
INC. and ECHO MAINTENANCE,	§	
L.L.C.		____ JUDICIAL DISTRICT

CERTIFICATE OF MERIT OF GREGG S. PERKIN, P.E.

BEFORE ME, the undersigned authority, on this day personally appeared Gregg S. Perkin, P.E., who being by me duly sworn on oath deposed and said:

1. My name is Gregg Steven Perkin. I am over the age of twenty-one (21) years, I have never been convicted of a felony, and I am competent to make this Affidavit. I have personal knowledge of, and have been provided with certain factual documentation with regard to this Affidavit, which I presently believe are all true and correct.
2. This Certificate of Merit ("COM") is submitted pursuant to the requirements of the TEXAS CIVIL PRACTICES AND REMEDIES CODE § 150.002, to the extent it is applicable to this action, with respect to the handling, checking, pre-assembly, welding and/or bolting, supporting and inspection ("Procedures") of certain aboveground piping components. These Procedures were generally identified in a published Scope of Work ("SOW") which was part of an Installation Work Package ("IWP").
3. I am the Owner, President and one (1) of the Principal Engineers of Engineering Partners International, LLC ("EPI"). EPI is an independent Consulting Engineering Firm. EPI's Corporate Offices are located at 1310 Kingwood Drive, Kingwood, Texas 77339; Telephone (281) 358-2126. EPI has been in existence since 1995. EPI has been and presently is in good standing with the State of Texas. I am also an owner of EPI Materials Testing Group, LLC ("EPI MTG"). EPI MTG is an independent Mechanical Testing and Metallurgy Laboratory. EPI MTG's offices are located at 1271 Rayford Bend, Spring, Texas 77386; Telephone (281) 363-9997. EPI MTG has been in existence since 2002. EPI MTG has been and presently is in good standing with the State of Texas.

4. I graduated in 1973 from California State University at Long Beach with a Bachelor of Science in Mechanical Engineering. In 1978, I became a registered Professional Engineer in the State of California by examination. I am presently registered as a Professional Engineer in the field of Mechanical Engineering in good standing by examination, experience and/or comity in thirteen (13) states: Texas, California, Hawaii, North Carolina, Oklahoma, Wyoming, New Mexico, Arkansas, Alabama, Montana, Mississippi, Colorado and Louisiana.
5. From 1968 through 1986, I was employed in the Oilfield Service Industry by Regan Forge and Engineering ("Regan"), Smith International Incorporated ("Smith"), Newpark Resources ("Newpark") and The Oil Patch Group ("OPG") as a Draftsman, Design Engineer, Engineering Manager, Manager of Field Engineering, Chief Engineer, Vice President of Engineering and Director of Manufacturing. I have also worked as a laborer in the Energy Industry, Serviceman and Field Engineer in both upstream and downstream operations in the Energy Industry.
6. I am presently an inventor and co-inventor of fourteen (14) United States Patents.
7. In mid-1986, I began my work as an independent Professional Mechanical Engineering Consultant. Since 1995, I have been employed by EPI as an independent consultant and Professional Engineer in the Field of Mechanical Engineering. I am routinely engaged in both upstream and downstream Energy Industry operations to include the design, use and application of much of the equipment and systems used for these operations.
8. From 1996 through 2010, I was a part time instructor at the University of Texas' Petroleum Extension Services ("PETEX"). I developed and conducted classes in upstream and downstream Energy Industry operations. Between 2004 and 2010, I served on PETEX's Advisory Board.
9. In January of 2011, I became one (1) of the Principal Owners and one (1) of the Instructors at Energy Training Solutions, LLC ("ETS") where I continue to teach improved and updated energy related courses.
10. I have also served as a Lecturer and Instructor for FMC Corporation, Baker-Hughes, Incorporated and National Oilwell Varco. I have authored and co-authored energy related technical papers and articles for the International Association of Drilling Contractors ("IADC"), the Society of Petroleum Engineers ("SPE") and PetroSafe.
11. As one (1) of EPI's Principal Engineers, I have often been independently retained to conduct design analysis, equipment design, failure analysis, review and interpret claim elements of intellectual property and provide other independent engineering consulting services related to the mechanical equipment and systems utilized in upstream and downstream Energy Industry operations.

12. I am presently affiliated with and have memberships in the following professional organizations: American Petroleum Institute ("API") Society of Petroleum Engineering ("SPE"), International Association of Drilling Contractors ("IADC"), American Society of Mechanical Engineers ("ASME"), National & Texas Societies of Professional Engineers ("NSPE" & "TSPE"), National Fire Protection Association ("NFPA"), Instrument Society of America ("ISA") and the American Welding Society ("AWS").
13. I am a licensed Professional Engineer in the field of Mechanical Engineering in the State of Texas. My Professional Engineer license number in the State of Texas is 51881. I am competent to testify, and I am actively engaged in the practice of the design, operation and installation of piping systems as well as the requirements for the safe lifting/rigging of piping for installation and am knowledgeable in this area of practice. A true and correct copy of my resume is attached hereto as Exhibit A, and is incorporated herein by reference for all purposes.
14. As shown in my Curriculum Vitae ("CV") in **Addendum 1**, I am licensed to practice engineering and have since 1986, been actively engaged in providing design engineering and independent engineering review and analysis. Further, I have designed, operated, conducted and implemented piping installation as well as rigging/lift plans, operations, procedures, and practices with regard to rigging or lifting piping for installation throughout my work career. Accordingly, I have direct knowledge and experience related to proper rigging/lifting policies, procedures, and practices. Further, my relevant education, training, experiences and knowledge of rigging/lifting practices are expressed and discussed throughout this Certificate of Merit.
15. While employed in industry, I was responsible to handle, check, pre-assemble, weld and/or bolt, support and inspect aboveground and below ground piping components. For example, while employed as a Design Engineer and Engineering Manager for Smith, I assisted in the design, installation and construction of aboveground piping and components for a Drilling Machine. I was also responsible for the design, manufacture, assembly, testing and installation of a number of other types and kinds of pipe and piping components. While employed as Chief Engineer and Director of Manufacturing for a division of Newpark, I designed, manufactured and fabricated a number of different kinds of aboveground and below ground piping components utilized in the Energy Industry. In 2002, I formed EPI MTG which is a Mechanical Testing and Metallurgy Laboratory. EPI MTG routinely handles, evaluates, tests and analyzes aboveground and below ground piping and piping components utilized in the Energy Industry and other industries. In 2011, I assisted in the formation of ETS. In 2013, I designed, manufactured and fabricated a liquid and gas flow metering Pipe Rack for ETS which utilized certain sizes and types and aboveground piping components for education and training purposes in the Energy Industry.

16. Based on my research, including my practice, education, training, knowledge and professional experience, I have personal knowledge of the industry regulations, standards, customs and practices as they relate to the handling and installation of piping systems, and I am very knowledgeable and experienced regarding the standard of care that a technician, engineer and/or operator of ordinary knowledge and skill should employ in the area of piping handling and installation with regard to proper rigging and lifting. Further, the opinions expressed herein are stated to a reasonable degree of engineering certainty.
17. With regard to this Incident, and as a Professional Engineer in the Field of Mechanical Engineering with nearly fifty (50) years of experience in Energy related industries, I have created, designed and specified the required documented Procedures for the lifting and/or moving of heavy objects and/or equipment. For example, while employed in industry as a Design Engineer, Field Engineer, Engineering Manager and Director of Manufacturing, I was often directly responsible to ensure Safe Lifting Operations in my Workplace. The Workplace locations which I was directly responsible to carry out Safe Lifting Operations was in our manufacturing, assembly and testing facilities and also in the Field. In this regard, I was responsible to ensure that Lifting and Handling Operations for a heavy object, multiple objects, an assembly or equipment and/or structures had been methodically planned and documented before the associated work commenced and then from the time it started, was carried out and concluded. The competent development of documented Lift Plans is commonly utilized in Energy related industries for difficult and complex lifting operations such that they can be managed and controlled safely. Lift Plans specify the equipment to be used and the roles, duties and responsibilities of all of its affected workers. As a Principal Engineer for EPI, I've also been responsible to develop and oversee Lift Plans for both routine and non-routine lifts in our Mechanical Testing and Metallurgy Laboratory; EPI Materials Testing Group, at other facilities and also in the Field. A true and correct copy of my Curriculum Vitae ("CV") is attached hereto as **Addendum 1**.
18. On December 12, 2017, EPI's Mr. Garrett Perkin, CSP, OHST and I personally witnessed, inspected, photographed and took videos of a Pipe Rack Area ("Area" or "Incident Area") which was under construction within ExxonMobil Oil Corporation's Refinery ("Refinery") located in Beaumont, Texas. It was our understanding that this Area was part of Exxon's SCANfining Project which would increase the Refinery's overall production.
19. An Incident, which resulted in a fatality, occurred in the Area on December 1, 2017.
20. While at the Refinery on December 12, 2017, we inspected and labeled materials and components that were involved in and/or removed from the Area where the incident occurred.

21. There were 35 items removed from the Area. These items were identified and labeled as follows:

- Sling (placed in a red biohazard bag marked "Espinoza 1" along with smaller red biohazard bag containing Teflon top (1) and a piece of purple glove);
- Shackle;
- Piping Schematics, Bill of Materials and Schedules, i.e. pages (bound with a two-prong fastener at the short edge with black cover and comprised of (14) 8 $\frac{1}{2}$ " x 11" and (10) 11" x 17" Schematics)
- Pipe wrap with Velcro, gray in color;
- BMRF STS Night Shift Log Report (2 pages);
- Pipe wrap with Velcro, yellow in color;
- Water Bottles (3) crushed, empty plastic water bottles; (4) not crushed plastic water bottles; (1) empty Gatorade bottle; (1) inner-ear protection device; (1) blue tape; (1) black and white diagonal-stripe tape; (1) 2" x 1" piece of black plastic;
- Over-ear protection device; (1) hard hat; (1) tether; (1) purple nylon bag; (1) approximately 3' x 2' piece of white fabric cloth;
- Grinding wheels (2); duct tape wheel (1); yellow zip tie (1); blue EMS cover/sheet (1);
- Tool bag, black and yellow in color
- Small red biohazard bag containing human remains, glove (1), and safety card material (1);
- Wire cable measuring approximately $\frac{1}{2}$ " to $\frac{5}{8}$ " in diameter;
- Wire cable measuring approximately $\frac{3}{8}$ " in diameter
- Right angle measuring tool;
- Level labeled "Abraham Elizondo", blue in color with yellow tether strap attached;
- Large pipe wraps with Velcro (7); Small pipe wrap with Velcro (1);
- Yellow and black utility bucket containing heat stress blankets
- H-beam sections measuring 4" x 8" x 6" (2);
- Grinding wheels (3); purple glove (1);
- Lengths of yellow rope (2); length of white rope (1); wire cable measuring approximately approximately $\frac{1}{2}$ " - $\frac{3}{8}$ " in diameter (1); face shields/masks (2);
- Level labeled "A. Elizondo";
- Level labeled "KM";
- Shackle, green in color with yellow tape;
- Pipe caps (2) measuring 24" in diameter labeled "10,800", black in color with blue tape crossed over diameter;
- CalHawk brand come-along labeled "Ken Madsen", orange in color
- Hand grinder labeled "A E";
- Broom;
- (4) strap/sling/wire rope protectors, white in color; (1) plastic Pepsi bottle; (2) plastic Clorox bottles; (2) empty chip packages;
- (6) heavy polymaterial heat stress blankets, black in color;

- 1/2" wire rope sling, 10' in length; fire blankets; (1) piece of burlap fabric.
 - DeWalt brand chisel, hand held; (1) can spray paint, green in color;
 - Harrington brand hoist, 2-ton capacity, orange in color;
 - Small red biohazard bag containing (1) portion of rope, yellow in color, with one end frayed and one end wrapped in silver duct tape, with blood stains, hair strands and other human remains;
 - Medium red biohazard bag containing (1) sling, approx. 20' in length, yellow in color, with blood stains; (6) latex gloves, purple in color; clear plastic packaging material. And;
 - Post-incident 3-ton Harrington chain hoist; red choker with shackle; wire choker with shackle.
22. EPI's Garrett Perkin, CSP, OHST returned to the Refinery on December 20, 2017 and December 21, 2017. There were 6 more items removed from the Area. These items were identified and labeled as follows:
- Lever hoist (come-along); beige choker with shackle; wire choker; shackle (post-incident);
 - 3-ton Harrington chain hoist: 2" orange sling, 20' in length; 2" orange sling, 10' in length; shackle;
 - Lever hoist (come-along); 2" orange sling, 10' in length; green choker;
 - Lashing with fire hose softener; (6) cable clamps;
 - (4) large softeners; (1) small softener. And;
 - The Incident Pipe Spool.
23. While conducting operations at Exxon's Facility, an employee of Echo Maintenance, LLC ("Echo"), Ms. Yesenia Espinoza ("Ms. Espinoza") was fatally injured when she was struck by a large section of piping that was being moved into position within this Area of the Refinery. Refer to Figures 1a through 1e.



Figure 1a: The ~Area where the Incident occurred within the ExxonMobil Refinery
Note: Photograph taken by the Affiant on December 12, 2017

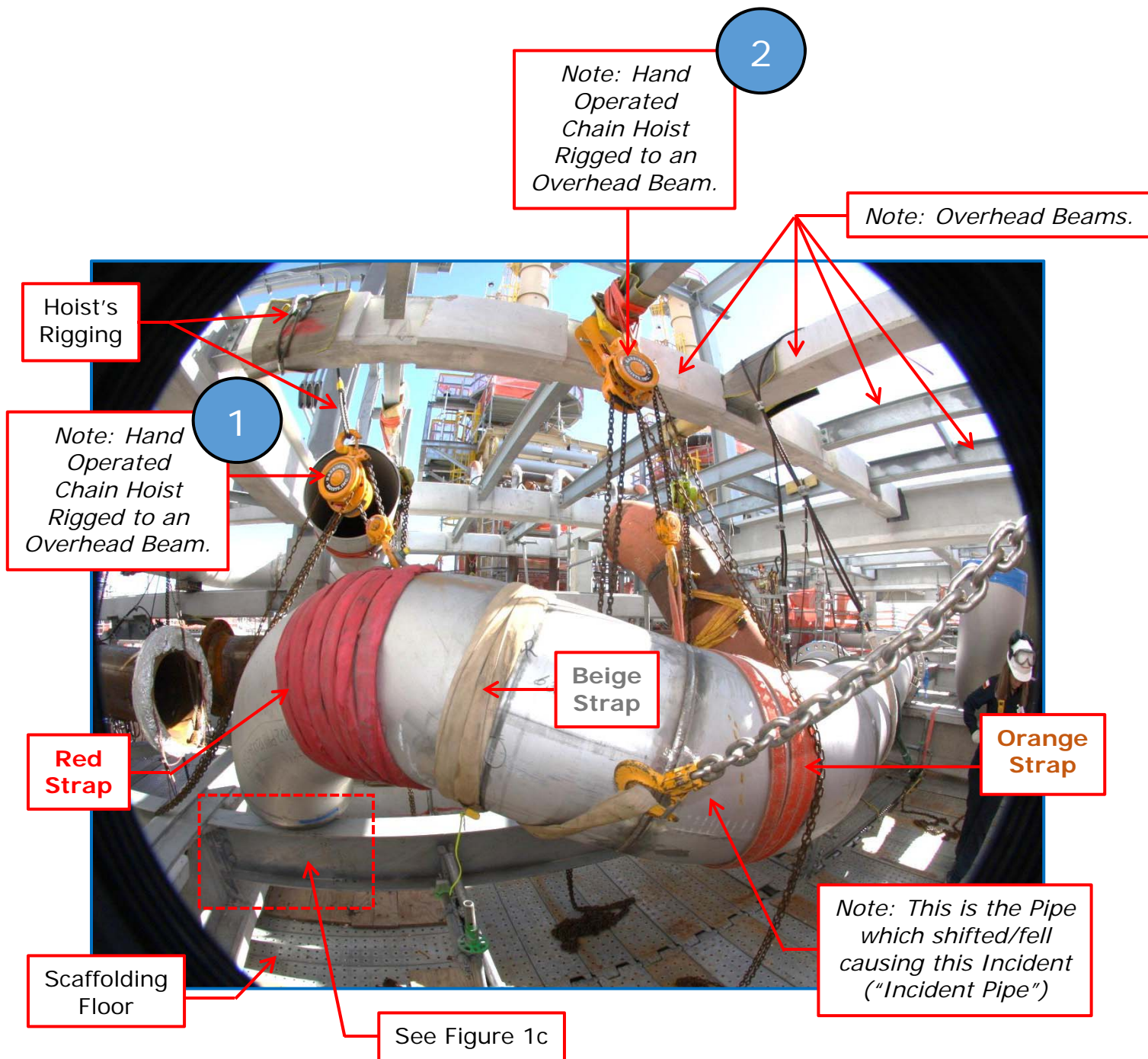


Figure 1b: The Incident Area on December 12, 2017
Note: Photograph taken by the Affiant with a Fisheye lens and notation(s) in Red Blocks also provided by the Affiant.

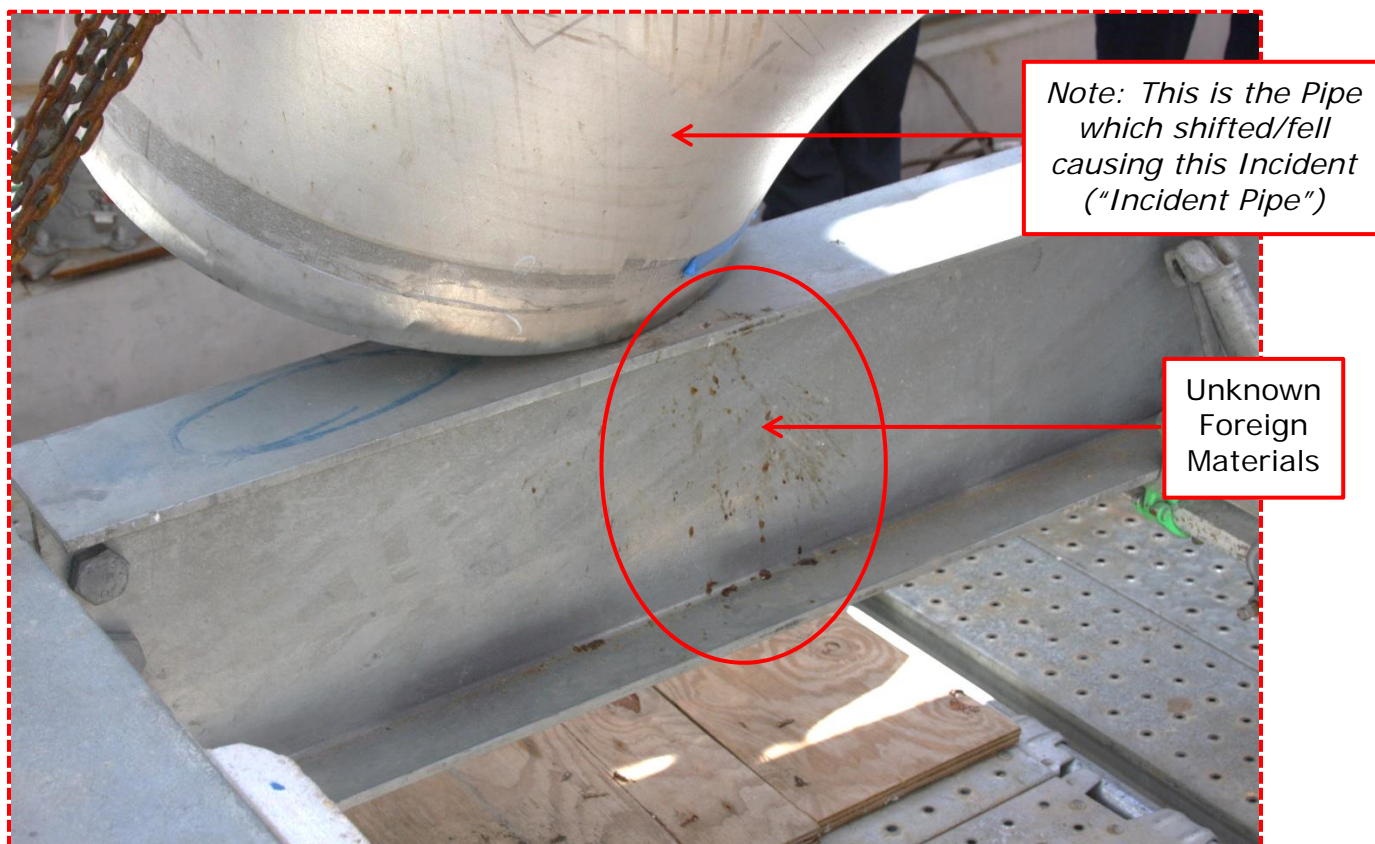


Figure 1c: The Incident Area on December 12, 2017
*Note: Photograph taken by the Affiant and notation(s) in **Red Blocks** also provided by the Affiant.*

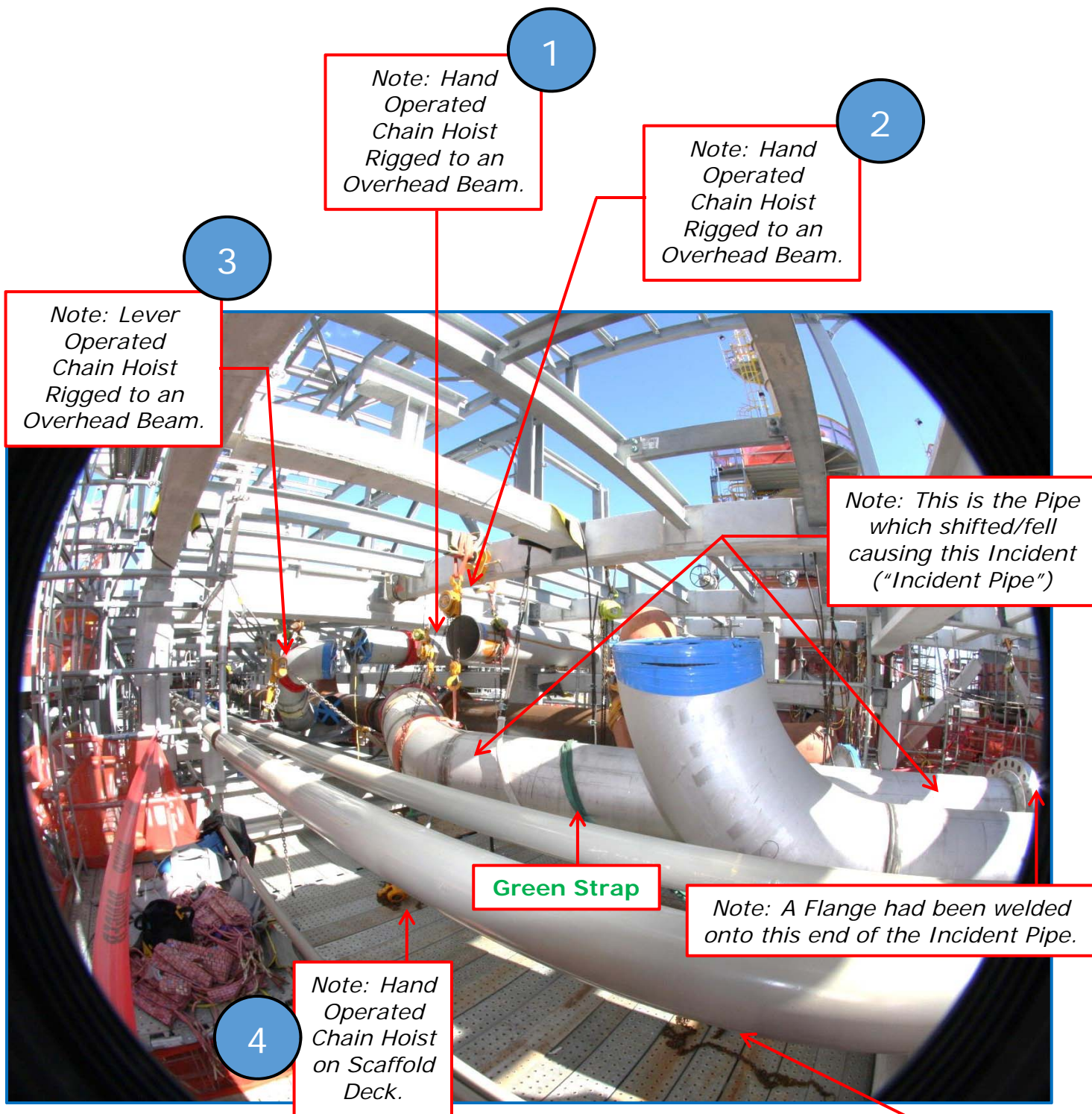


Figure 1d: The Incident Area with certain Hoists identified on December 12, 2017

Note: Photograph taken by the Affiant with a Fisheye lens and notation(s) in **Red Blocks** also provided by the Affiant.



Figure 1e: Evidence Identification & Preservation on December 12, 2017
Note: Photograph taken by the Affiant.

24. Referring again to Figures 1a through 1d, it is presently my understanding with regard to this Incident that it tragically occurred in the Area which was located on the 4th Level of a Scaffold Structure assembled within the Refinery. Within this Area; at least one (1) heavy section of aboveground piping ("Pipe" or "Piping") was being supported by certain chains, wire rope and/or other lifting equipment ("Rigging"). Refer to Figure 1f.

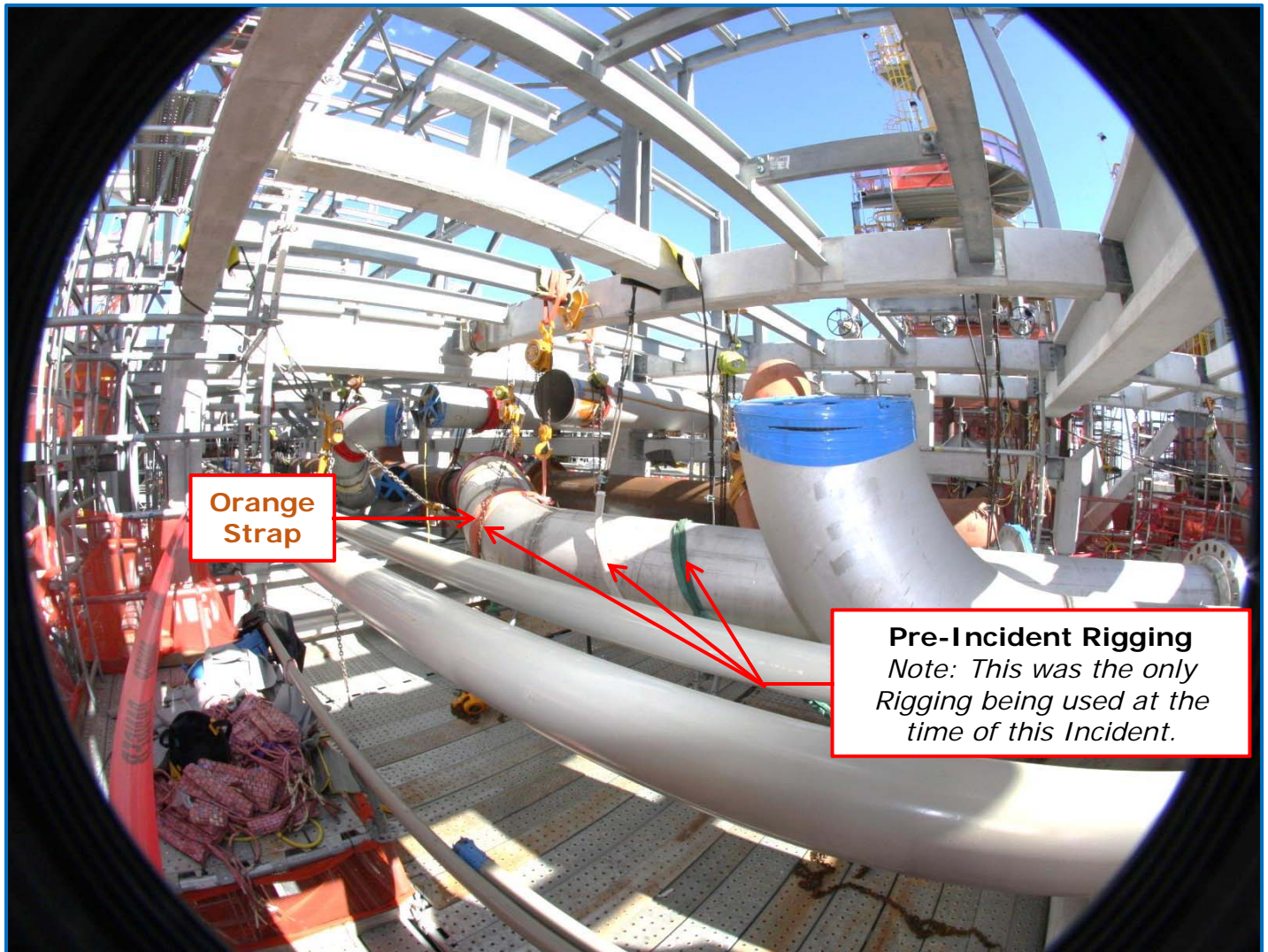


Figure 1f: The Incident Area with the Hoists identified which were being used on December 1, 2017
Note: Photograph taken by the Affiant with a Fisheye lens and notation(s) in Red Blocks also provided by the Affiant.

25. On December 21, 2017, the Incident Pipe was removed from the Area and later secured to a flatbed trailer. Refer to Figures 1g through 1i all of which were taken by walking completely around the Incident Pipe to better see its length and shape.



Figure 1g: Incident Pipe on Flatbed

Note: Photograph taken by Garrett Perkin, CSP, OHST on December 22, 2017.



Figure 1h: Incident Pipe on Flatbed

Note: Photograph taken by Garrett Perkin, CSP, OHST on December 22, 2017.



Figure 1i: Incident Pipe on Flatbed

Note: Photograph taken by Garrett Perkin, CSP, OHST on December 22, 2017.



Figure 1j: Incident Pipe on Flatbed

Note: Photograph taken by Garrett Perkin, CSP, OHST on December 22, 2017.



Figure 1k: Incident Pipe on Flatbed

Note: Photograph taken by Garrett Perkin, CSP, OHST on December 22, 2017.



Figure 1l: Incident Pipe on Flatbed

Note: Photograph taken by Garrett Perkin, CSP, OHST on December 22, 2017.

26. As previously discussed, I have personally designed, implemented and conducted **Lifting Plans**, i.e. safe methods, practices and processes to carry-out certain heavy lifting operations. I am also familiar with the Occupational Safety and Health Administration's ("OSHA") Standard **29 CFR 1926.251** entitled **Rigging Equipment for Material Handling**. Refer to Figures 2a and 2b.

Occupational Safety and Health Administration
English | Spanish

ABOUT OSHA WORKERS EMPLOYERS REGULATIONS ENFORCEMENT TOPICS NEWS & PUBLICATIONS DATA TRAINING

Regulations (Standards - 29 CFR) - Table of Contents

- Part Number: 1926
- Part Title: Safety and Health Regulations for Construction
- Subpart: H
- Subpart Title: Materials Handling, Storage, Use, and Disposal
- Standard Number: 1926.251
- Title: Rigging equipment for material handling.
- Applicable Standards: 1910.184(a); 1910.184(c)(2); 1910.184(c)(3); 1910.184(c)(5); 1910.184(c)(7); 1910.184(c)(10); 1910.184(c)(11); 1910.184(c)(12); 1910.184(f)(2); 1910.184(f)(3); 1910.184(f)(4); 1910.184(d)
- GPO Source: e-CFR

Figure 2a: Header from 29 CFR 1926.251

Note: Captured from

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10686
and **Yellow highlights** provided by the Affiant for Emphasis.

§ 1926.251 Rigging equipment for material handling.

(a) *General.* (1) Rigging equipment for material handling shall be inspected prior to use on each shift and as necessary during its use to ensure that it is safe. Defective rigging equipment shall be removed from service.

(2) Employers must ensure that rigging equipment:

(i) Has permanently affixed and legible identification markings as prescribed by the manufacturer that indicate the recommended safe working load;

(ii) Not be loaded in excess of its recommended safe working load as prescribed on the identification markings by the manufacturer; and

(iii) Not be used without affixed, legible identification markings, required by paragraph (a)(2)(i) of this section.

(3) Rigging equipment, when not in use, shall be removed from the immediate work area so as not to present a hazard to employees.

(4) Special custom design grabs, hooks, clamps, or other lifting accessories, for such units as modular panels, prefabricated structures and similar materials, shall be marked to indicate the safe working loads and shall be proof-tested prior to use to 125 percent of their rated load.

Figure 2b: Section 29 CFR 1926.251

Note: **Yellow highlights** provided by the Affiant for Emphasis.

27. It is presently my understanding that, with regard to this Incident, Bechtel Oil, Gas and Chemicals, Inc. ("Bechtel") and Echo Maintenance, LLC ("Echo") were providing engineering and other services to Exxon at this Exxon Refinery.
28. Based on my education, training, knowledge and professional experience, I have personal knowledge of the acceptable standards for the practice of providing engineering services in the State of Texas which were part of the services to be provided and/or performed by Bechtel and/or Echo prior to this Incident.
29. It became my understanding that the work which was taking place in this Area was part of the **ExxonMobil Beaumont Refinery SCANfining Project**. Refer to Figures 3a and 3b.

BEAUMONT, Texas--(BUSINESS WIRE)--ExxonMobil today announced plans to increase production of ultra-low sulfur fuels at its Beaumont refinery by approximately 40,000 barrels per day, further strengthening its integrated downstream portfolio while meeting environmental standards.

Construction is scheduled during the second half of 2016 to install a selective cat naphtha hydrofining unit, which uses a proprietary catalyst system to remove sulfur while minimizing octane loss. Startup of the flexible technology, known as SCANfining, is expected in 2018. Gasoline produced using this technology will meet the U.S. Environmental Protection Agency's Tier 3 gasoline sulfur specifications.

"ExxonMobil continues to strengthen its portfolio of world-class refining assets," said Steve Cope, director of North America refining, for ExxonMobil. "This investment further enhances the competitiveness of our U.S. Gulf Coast refineries."

Figure 3a: Image captured from <http://news.exxonmobil.com/press-release/exxonmobil-expand-ultra-low-sulfur-fuels-production-beaumont-refinery> and Yellow highlights provided by the Affiant for Emphasis.

Bechtel to Upgrade Texas Refinery for ExxonMobil

26 July 2016 | HOUSTON, Texas

Expansion of ultra-low sulfur product slate anticipated to be complete in 2018

Bechtel has been awarded a contract to upgrade the ExxonMobil refinery in Beaumont, Texas, where the company will apply ExxonMobil's proprietary SCANfining technology to increase the production of motor fuels.

"The Bechtel team will apply extensive technical knowledge and global experience to efficiently and safely deliver an enhanced refining facility at Beaumont," said Jack Fitcher, president of Bechtel's Oil, Gas and Chemicals business unit. "We look forward to continued collaboration with ExxonMobil as they work to expand production of ultra-low sulfur fuels at their facility."

Bechtel has already begun design work on the Beaumont refinery upgrades. Construction is planned to start in mid-2016 with targeted start-up in 2018.

Bechtel is a global leader in the integrated design, procurement, construction, and project management of oil, chemical, and natural-gas facilities. In addition to 50 major oil and gas field developments as well as 110 gas processing plants, Bechtel successfully completed 265 refinery grassroots projects, expansions and modernizations, including several of the largest refinery complexes in the world, including Jamnagar Refinery Complex in India, the Motiva refinery expansion in Texas, and the Ruwais refinery expansion in the United Arab Emirates.

ABOUT BECHTEL

Bechtel is one of the most respected global engineering, construction, and project management companies. Together with our customers, we deliver landmark projects that foster long-term progress and economic growth. Since 1898, we've completed more than 25,000 extraordinary projects across 160 countries on all seven continents. We operate through four global businesses: Infrastructure; Nuclear, Security & Environmental; Oil, Gas & Chemicals; and Mining & Metals. Our company and our culture are built on more than a century of leadership and a relentless adherence to our values, the core of which are safety, quality, ethics, and integrity. These values are what we believe, what we expect, what we deliver, and what we live. www.bechtel.com

Figure 3b: Image captured from Bechtel's website at <http://www.bechtel.com/newsroom/releases/2016/07/bechtel-upgrade-texas-refinery-exxon-mobil/> and Yellow highlights provided by the Affiant for Emphasis.

30. During my inspection on December 12, 2017, I was able to photograph the following **Documents** which were retrieved from the Area after this Incident and were catalogued as evidence. Refer to Figures 4a, 4b and 4c.¹ Some of these **Documents** included:

- The Cover Page of the **INSTALLATION WORK PACKAGE No. IWP-3283R02-BEC-15-K942**;
- The **PIPE INSTALLATION CARD-Job No. 2600 IWP-3283R02-BEC-15-K942, AREA/CWP: 3283R02** and;
- The **INSPECTION AND TEST PLAN No. 26000-510-GQY-GEP-30002** entitled Aboveground Piping Installation/Testing/Restoration.

31. Included in the **INSPECTION AND TEST PLAN No. 26000-510-GQY-GEP-30002** entitled Aboveground Piping Installation/Testing/Restoration were a number of **Drawings**. Refer to Figures 5a, 5b and 5c.² Some of these **Drawings** included.

- **Plan View Drawing** of a portion of Exxon's Refinery including some street and location references;
- **Piping Isometric @ 62 ft. Elevation** and;
- Another **Piping Isometric Drawing** with Flooring and Handrails above **IWP-3283R02-BEC-15-K492**.

32. Referring again to Figure 5b³; there were ten (10) each twenty four inch (24") Inside Diameter ("ID") Pipe Sections which were staged for installation. While not straight sections of pipe, they varied in overall length ("OAL") between three point seven five feet (3.75') and twenty six point five two four feet (26.524').

33. Referring again to Figures 1b, 1c and 1d including reviewing some of the information in the **PIPE INSTALLATION CARD-Job No. 2600 IWP-3283R02-BEC-15-K942, AREA/CWP: 3283R02**, the Incident Pipe may have weighed four thousand four hundred eighty seven (4,487) pounds ("lbs.") and was 26.542' long. Refer to Figures 6a and 6b⁴.

¹ Pursuant to the Parties' agreement, Figures 4a, 4b, and 4c which contain images of the documents from the Piping Installation Work Package which were previously removed from the Incident Area have been omitted from the Certificate of Merit that is filed with the District Clerk.

² Pursuant to the Parties' agreement, Figures 5a, 5b, and 5c which contain images of the documents from the Piping Installation Work Package which were previously removed from the Incident Area have been omitted from the Certificate of Merit that is filed with the District Clerk.

³ *Id.*

⁴ Pursuant to the Parties' agreement, Figure 6b which contains the image of a document from the Piping Installation Work Package which was previously removed from the Incident Area has been omitted from the Certificate of Merit that is filed with the District Clerk.

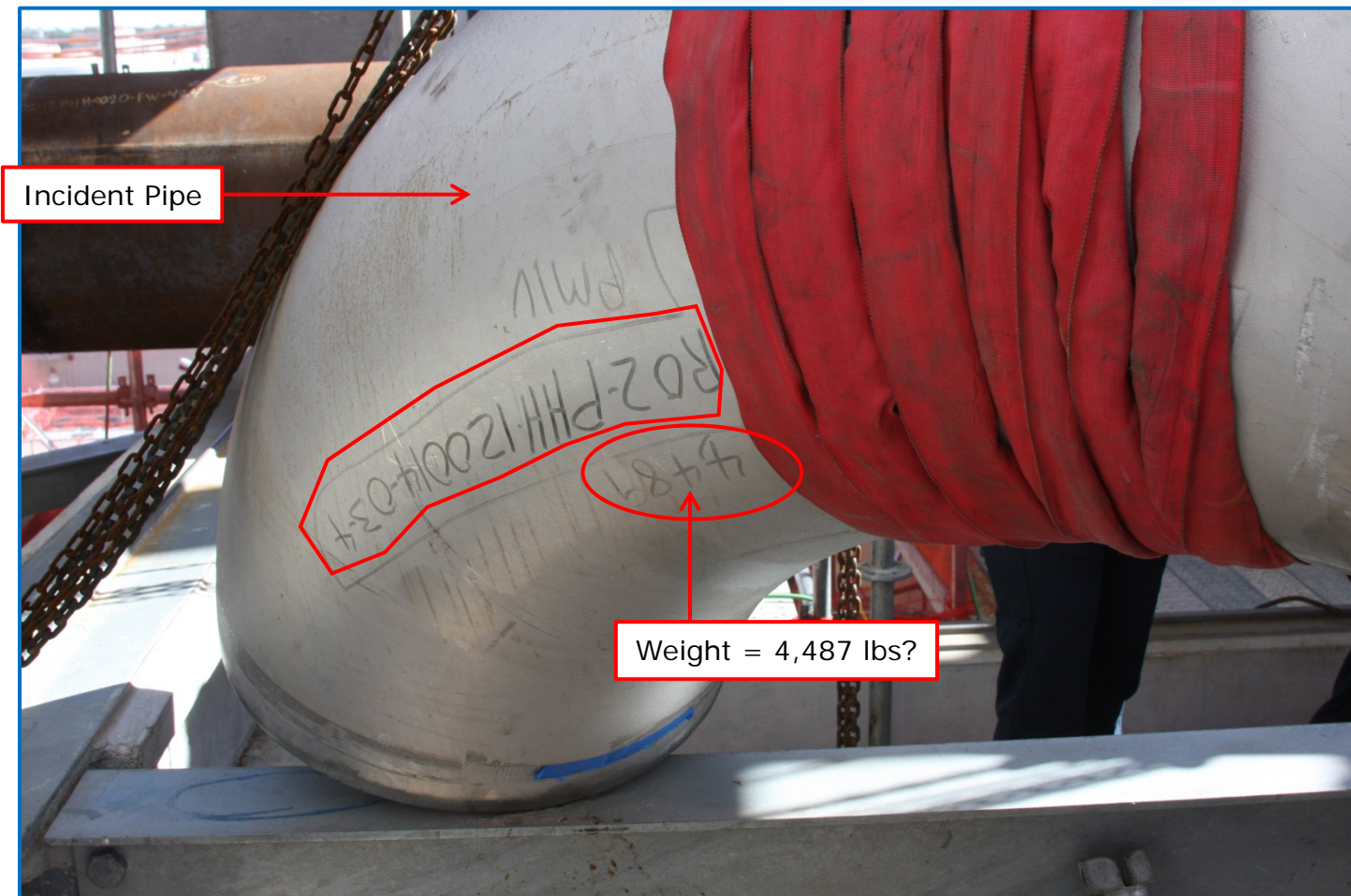


Figure 6a: Incident Pipe with Hand-made Markings
Note: Photograph taken by the Affiant and notation(s) in Red Blocks also provided by the Affiant.

34. If the Incident Pipe weighed 4,487 lbs. and was 26.542' long, then it could have weighed an average of one hundred seventy five point seven (175.7) pounds per foot ("lbs./ft." or "psf").
35. Referring again to Figures 1c, 1d and 6a and during my inspection on December 12, 2017; one end of the Incident Pipe was resting atop of a beam. This end of the Incident Pipe had been circumferentially beveled ("Beveled End") such that it could be welded to another section of 24" ID Piping. Its opposite end had a Flange welded to it.
36. During my inspection on December 12, 2017, the entire weight of the Incident Pipe was being supported by pre-incident Rigging, post-incident Rigging and Beams. Refer to Figures 7a, 7b and 7c.

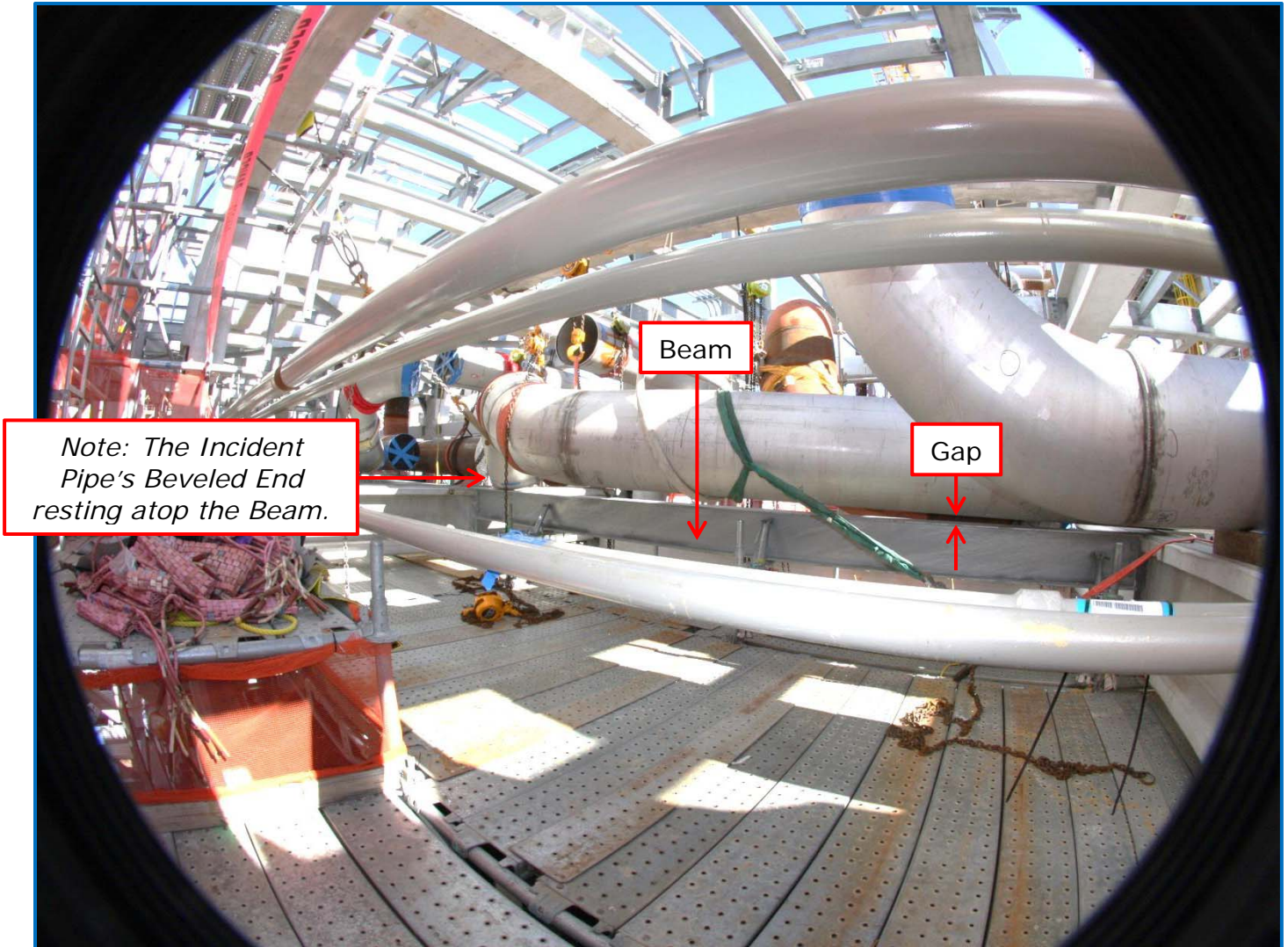


Figure 7a: The Incident Area
Note: Photograph taken by the Affiant with a Fisheye lens and notation(s) in *Red Blocks* also provided by the Affiant.

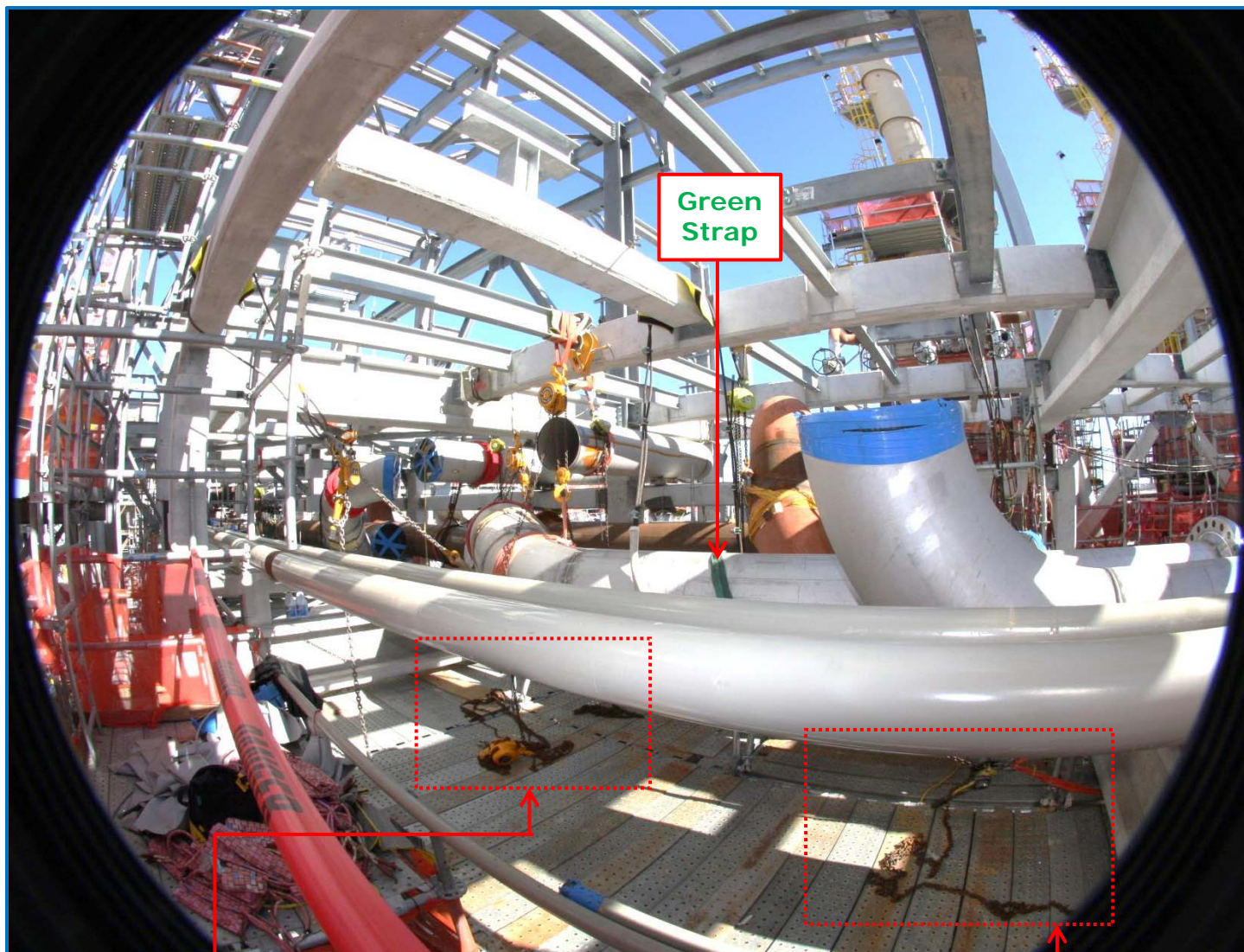
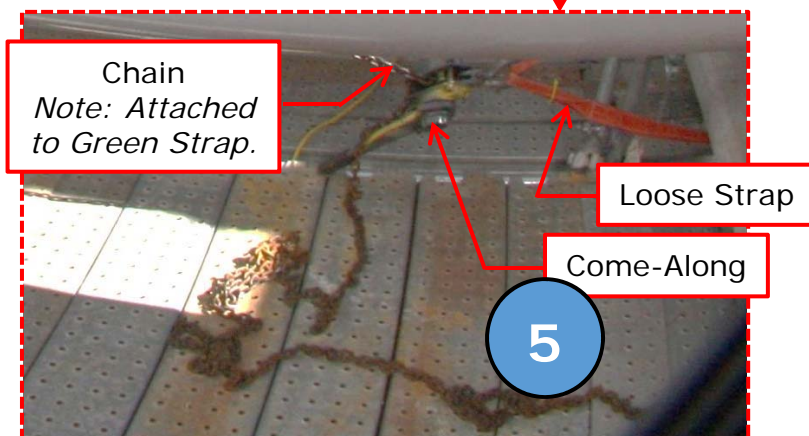
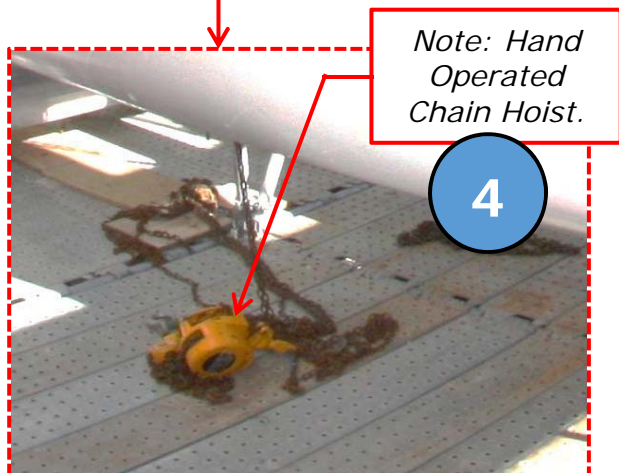


Figure 7b: The Incident Area
Note: Photograph taken by the Affiant with a Fisheye lens and notation(s) in Red Blocks also provided by the Affiant.



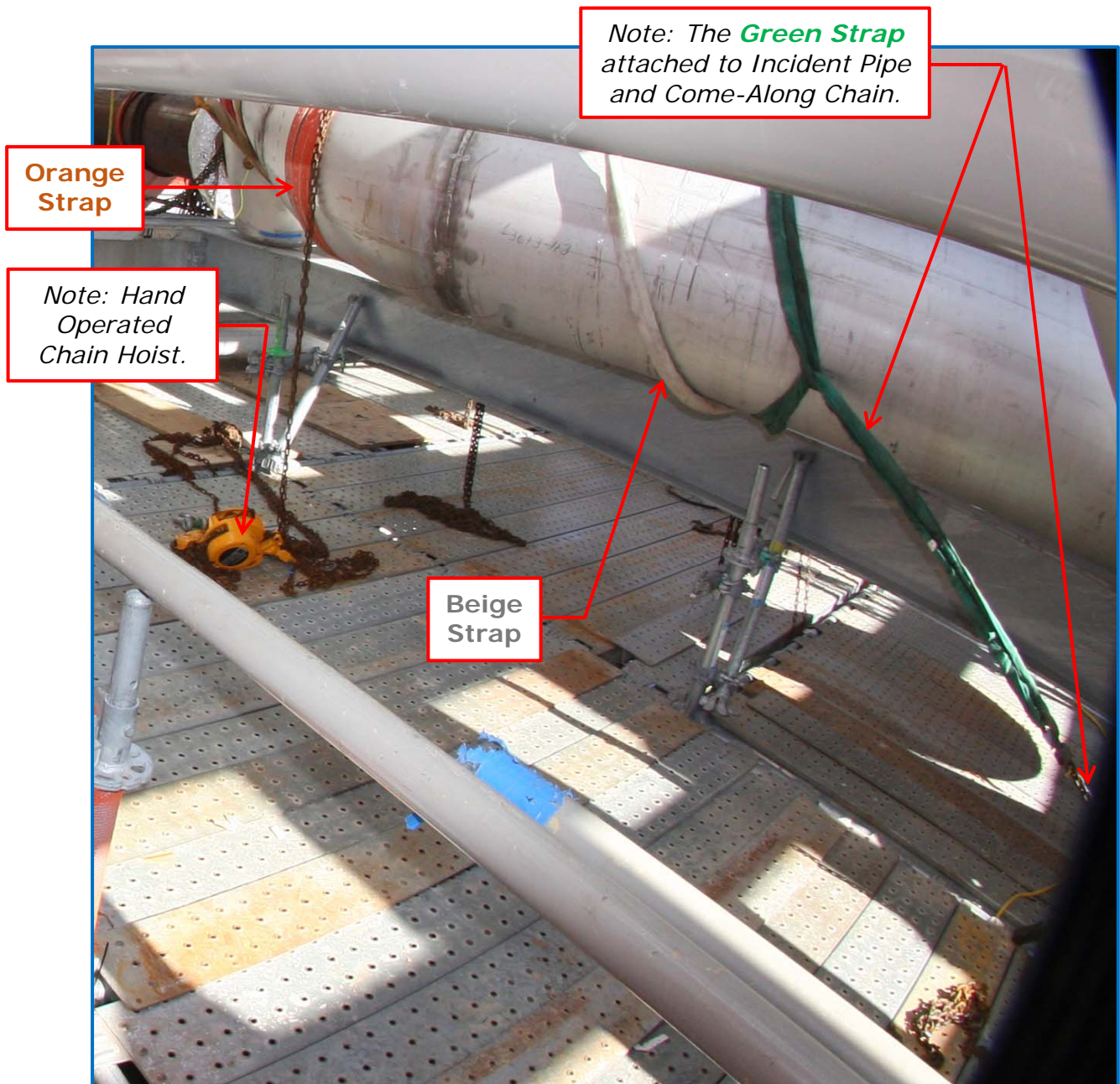


Figure 7c: The Incident Area

Note: Photograph taken by the Affiant with a Fisheye lens and notation(s) in **Red Blocks also provided by the Affiant.**

37. During my inspection on December 12, 2017, I saw that the Incident Pipe was assembled together from three (3) each, 24" ID Pipe Sections; 1 elbow with a straight section which was circumferentially welded to another elbow which was circumferentially welded to a straight section with a Flange circumferentially welded at its opposite end. Refer to Figures 8a and 8b.

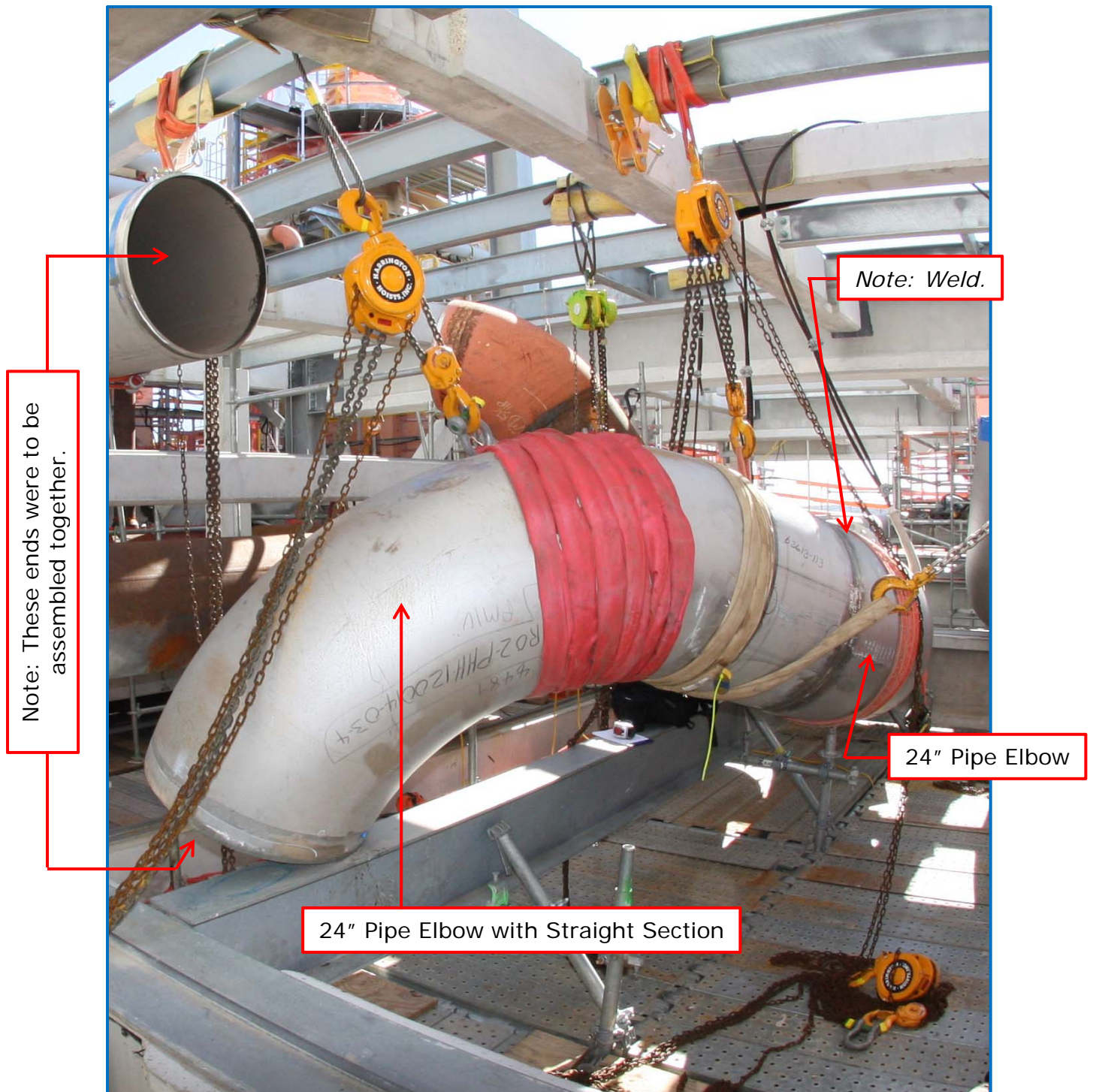


Figure 8a: The Incident Pipe Assembly
Note: Photograph taken by the Affiant with a Fisheye lens and notation(s) in Red Blocks also provided by the Affiant.

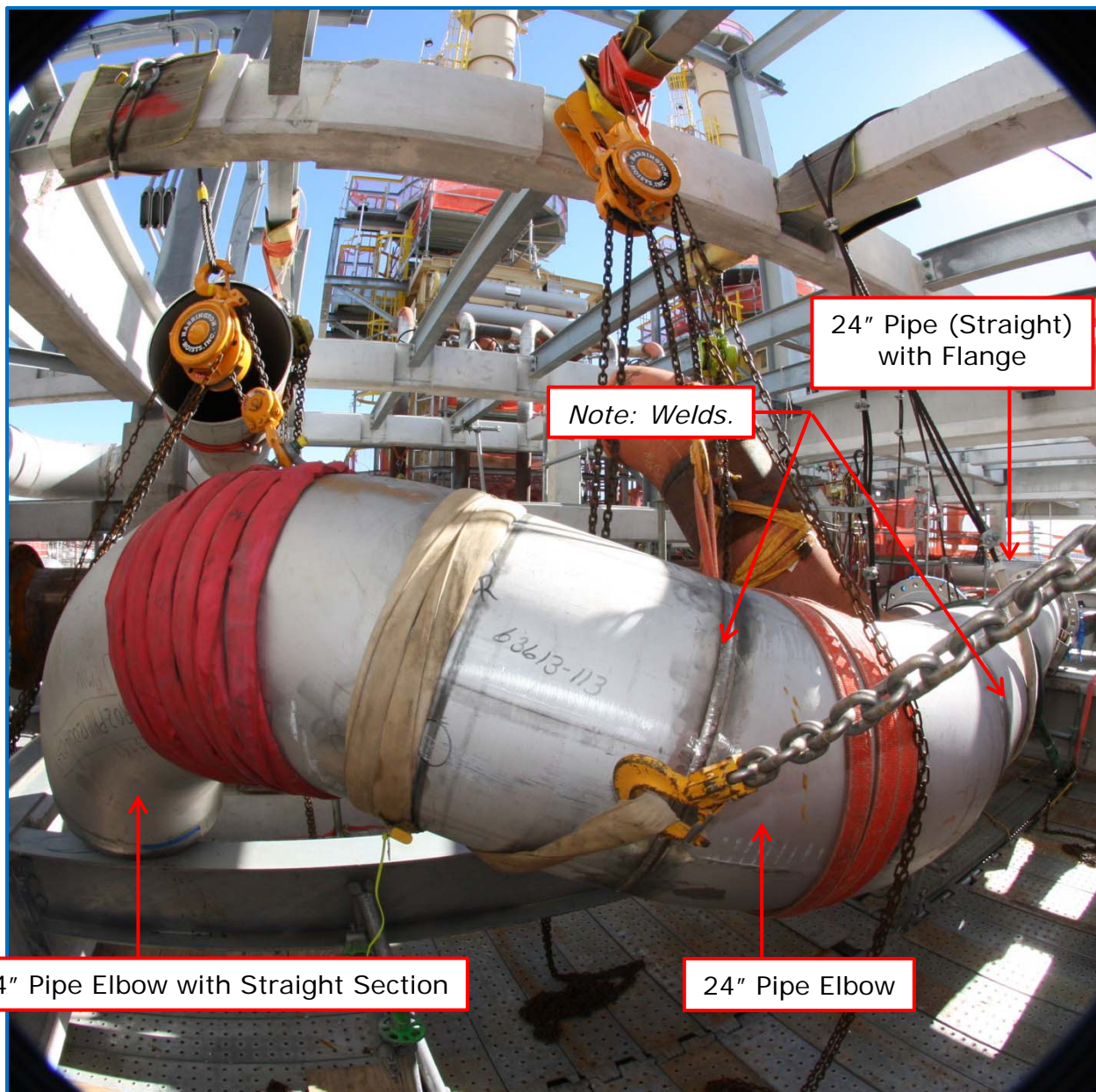


Figure 8b: The Incident Pipe Assembly
Note: Photograph taken by the Affiant with a Fisheye lens and notation(s) in Red Blocks also provided by the Affiant.

38. Referring again to Figures 1b and 1d. Hoist nos. 1, 2 and 4 were Harrington Hoists, Inc. ("Harrington") manufactured Hand Chain Hoists. Hoist no. 3 was a Harrington Lever Hoist. Referring to www.harringtonhoists.com the **Owner's Manuals** which can be downloaded from this website, there are similar **WARNINGS** for both of these Hoists. The American National Standards Institute's ("ANSI") Standard No. **B30.16 Overhead Hoist (Underhung)** also discusses vertical lifting and lowering of freely suspended and unguided loads. Refer to Figures 9a and 9b.

1.2 Warning Tags and Labels

The warning tag illustrated below in Figure 1-1 is supplied with each hoist shipped from the factory. If the tag is not attached to your hoist's no-load side of the load chain, order a tag from your dealer and install it. Read and obey all warnings attached to this hoist. Tag is not shown actual size.



Figure 9a: Harrington's WARNINGS pertaining to Hand Operated and Lever Operated Chain Hoists

WARNING

To avoid serious injury or death:

1. Only allow people, trained in safety and operation of this product, to operate the hoist.
2. Only operate a hoist if you are physically fit to do so.
3. When a "DO NOT OPERATE" sign is placed on the hoist, do not operate the hoist until the sign has been removed by designated personnel.
4. Before each shift, the operator should inspect the hoist for wear or damage.
5. Never use a hoist which inspection indicates is worn or damaged.
6. Periodically, inspect the hoist thoroughly and replace worn or damaged parts.
7. Lubricate the hoist regularly.
8. Do not use hoist if hook latch has been sprung or broken.
9. Check that the hook latches are engaged before using.
10. Never splice a hoist chain by inserting a bolt between links.
11. Only lift loads less than or equal to the rated capacity of the hoist. See "SPECIFICATIONS" section.
12. When using two hoists to suspend one load, select two hoists each having a rated capacity equal to or more than the load. This provides adequate safety in the event of a sudden load shift.
13. Never place your hand inside the throat area of a hook.
14. Never use the hoist load chain as a sling.
15. Never operate a hoist when the load is not centered under the hook. Do not "side pull" or "yard."
16. Never operate a hoist with twisted, kinked, "capsized" or damaged load chain.
17. Do not force a chain or hook into place by hammering.
18. Never insert the point of the hook into a chain link.
19. Be certain the load is properly seated in the saddle of the hook and the hook latch is engaged.
20. Do not support the load on the tip of the hook.
21. Never run the load chain over a sharp edge.
22. Pay attention to the load at all times when operating the hoist.
23. Always ensure that you and all other people, are clear of the path of the load. Do not lift a load over people.
24. Never use the hoist for lifting or lowering people, and never allow anyone to stand on a suspended load.
25. Do not swing a suspended load.
26. Never weld or cut on a load suspended by the hoist.
27. Never use the hoist chain as a welding electrode.
28. Do not operate hoist if chain jumping, excessive noise, jamming, overloading, or binding occurs.
29. Only operate the hoist with manual power.
30. After use, or when in a non-operational mode the chain hoist should be secured against unauthorized and unwarranted use.
31. Do not leave a load suspended when the hoist is unattended or not in use.
32. Never operate if chain is restricted from a straight line to load



Figure 9b: Diagrams and WARNINGS from ANSI B30.16 Overhead Hoist (Underhung)
 Note: **Yellow Highlights** provided by the Author for Emphasis.

39. My opinions and observations as a registered Professional Engineer in the field of Mechanical Engineering are described below in paragraph nos. 40 through 48. They are based upon a reasonable degree of engineering certainty with regard to this Incident. They are also based upon my education, training, knowledge and experience with regard to the Heavy Lifting and Pipe Handling Operations being conducted at the time of this Incident, my December 12, 2017 inspection of the facility, my review of the items and photographs identified and all of the available evidence to date.
40. The **Orange Strap** had been choked around the Incident Pipe. A Shackle had been connected at one end of the **Orange Strap**. The other end of the **Orange Strap** was looped-through the Shackle and connected to the lower Hook of Chain Hoist 2. Chain Hoist 2's other Hook was connected to a Strap which had been wrapped around a pad on an overhead beam. Using Chain Hoist 2 and the **Orange Strap** to lift the Incident Pipe in this manner would cause it to not only come-up but swing and/or rotate, as well. Refer to Figure 10.

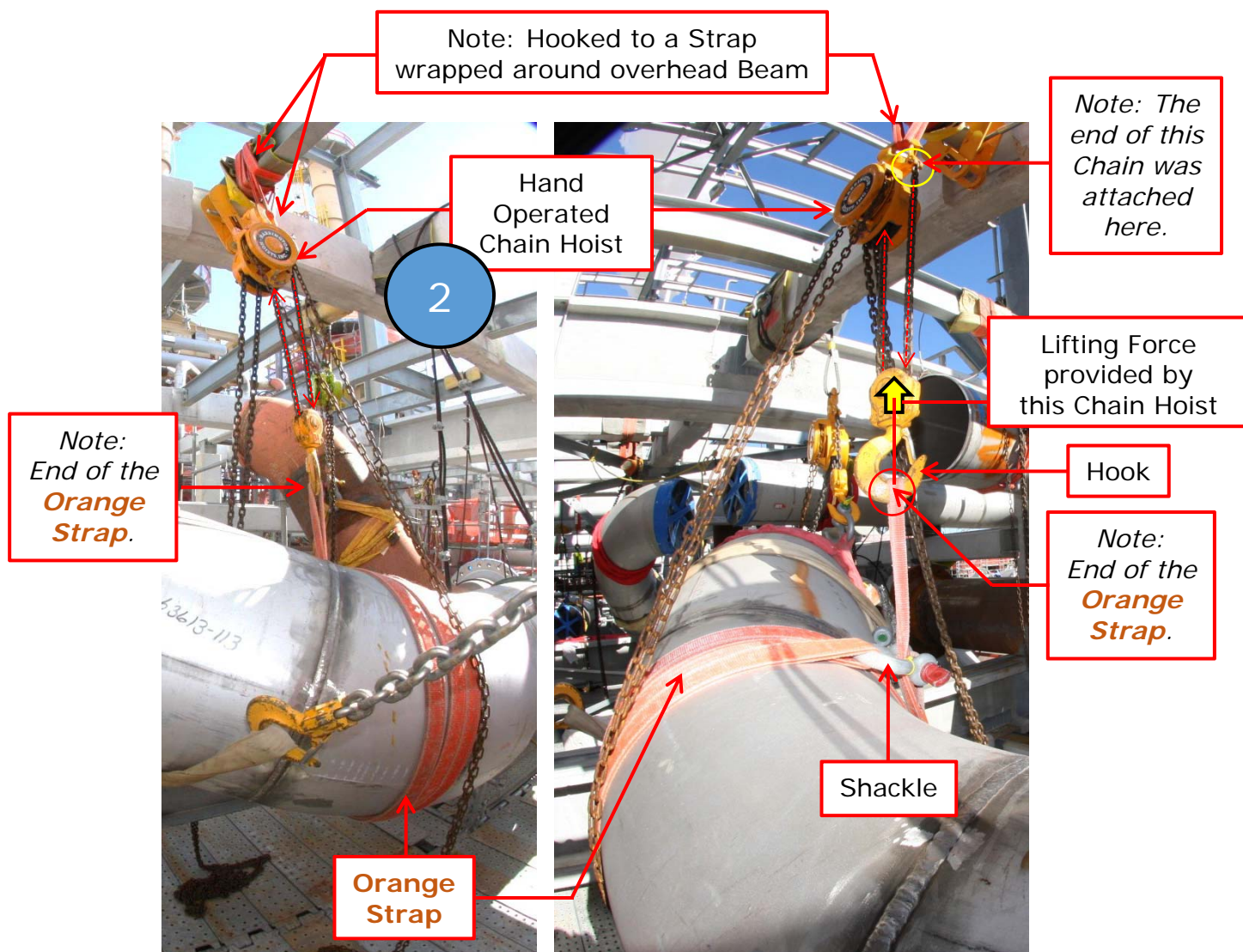


Figure 10 (left to right): The Hand Operated Chain Hoist which was attached to the **Orange Strap** at the time of the Incident.

*Note: The Force being applied to the **Orange Strap** by the Manually Operated Chain Hoist can cause the Incident Pipe to lift, swing and/or rotate*

41. Bechtel and/or Echo violated the **Yellow Highlighted WARNINGS** outlined in Figure 9b.
42. With regard to the work being conducted prior to and up to the time of the Incident, a number of large and heavy sections of pipe, including the Incident Pipe, were being lifted, handled and oriented within the Area using Hand Operated and Lever Operated Chain Hoists in conjunction with Slings, Straps, Chains, Hooks and Come-Alongs.
43. A number of these large and heavy sections of pipe should have been placed within the Area using a Crane. After they were set-down inside this Area;

Bechtel and/or Echo installed and attached a number of overhead beams to the Pipe Rack Structure.

44. Bechtel and/or Echo subsequently began the process of Rigging large and heavy sections of pipe, such as the Incident Pipe, between the overhead beams to the Pipe Rack Structure with these Hand Operated and Lever Operated Chain Hoists using Slings, Straps, Chains, Hooks and Come-Alongs.
45. Any Workers in the Area who were operating these Hand Operated and Lever Operated Chain Hoists connected to large and heavy sections of pipe, such as the Incident Pipe, using Slings, Straps, Chains, Hooks and/or Come-Alongs including any Flaggers, Helpers, etc., would have been in very close proximity (i.e. Harm's Way) to the Rigging and the Loads being lifted and/or maneuvered within the Area. Furthermore, if any of the Hoists, Slings, Straps, Chains, Hooks and/or Come-Along(s) were to fail and/or if the sections of pipe and/or Incident Pipe were to swing and/or rotate unexpectedly, there were not adequate escape routes and/or safe areas available to personnel, such as Mrs. Espinoza, to access to and/or egress from.
46. After these large and heavy sections of pipe, including the Incident Pipe, were placed within the Area using a Crane, the construction and installation of the overhead beams of the Pipe Rack Structure should have been delayed, such that these large and heavy sections of pipe, including the Incident Pipe, which were placed within the Area, could have been properly Rigged-up, lifted, maneuvered and handled using a Crane(s).
47. In order to safely and efficiently conduct these operations with a Crane(s); **Rigging and Lift Plans, Critical Lift Plans, Lift Plans**, etc. should have been competently developed and approved by Bechtel and Echo.
48. Creating, engineering, reviewing, implementing, overseeing, and conducting a **Rigging and Lift Plan** is essential to conducting operations safely and establishing a safe workplace for personnel. **Rigging and Lifting Plans** consider all relevant factors which should be addressed to ensure the lift can be conducted properly and safely. These factors included, but are not limited to:
 - **Environmental Factors** such as the work area where operations are to take place, any Confined Space limitations, clearances and zones of danger, wind, weather, atmospheric conditions;
 - **Load Factors** such as the weight of the process piping, equipment, dimensions, center of gravity ("CG"), lift points, load control, application of multiple Rigging equipment and attachments, allowable loads for Rigging gear;
 - **Equipment, Rigging & Lift Criteria** such as single/multiple cranes, chain hoists/chain falls, come-a-longs, slings, lifting straps, sling/strap

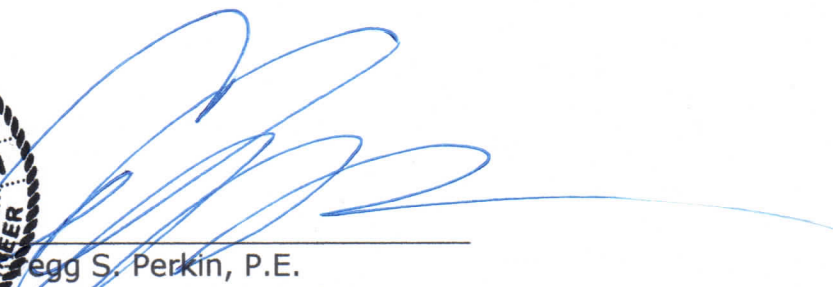
protectors/softeners, shackles, chains, tag lines, flagger/spotter requirements;

- **Personnel and PPE Factors** such as clearing the area of unnecessary personnel, personnel maneuverability, escape routes, personnel training and qualifications, personnel fatigue, fall protection, possible respiratory protection, field of vision restrictions and;
- **Communication Factors** such as rigging/lift plans, pre-lift meetings, Job Safety Analyses ("JSAs"), Work Permits, Hot Work Permits, hazard identification and hazard control implementation, and communication prior to, during and after the lifts.

49. In this regard, Bechtel and/or Echo should have involved all necessary personnel, i.e. Lifting Team, to properly and safely engineer, create, implement, oversee and conduct these pipe lifting, maneuvering, welding, etc. operations at ExxonMobil Beaumont Refinery SCANfining Project. As such, a competently developed **Rigging and Lift Plan** should have been developed, implemented and followed in order to conduct these construction operations involving all piping, including the Incident Pipe. While there are many means and methods to conduct a safe lifting operation, it is my opinion that the use of Hand Operated and Lever Operated Chain Hoists connected to large and heavy sections of pipe, such as the Incident Pipe using Slings, Straps, Chains, Hooks and/or Come-Alongs and placing affected personnel, such as Flaggers, Helpers, etc., in Harm's Way to the Rigging and the Loads being lifted and/or maneuvered within the Area was unacceptable.
50. Considering all of the facts and circumstances discussed within this COM, the failure by Bechtel and/or Echo to develop, implement, follow and/or train personnel to competently develop, manage, implement and use industry acceptable **Rigging and Lift Plans** created unsafe and hazardous conditions for all of the workers in the Area including the deceased, that were likely to cause death or serious physical harm. Had Bechtel and/or Echo done so, Ms. Espinoza's Incident, more likely than not, would not have occurred. Bechtel and/or Echo failed to use the ordinary care which a reasonable, prudent and competent engineer would have used in safely performing and carrying-out their duties relative to ensuring that the **Lifting and Handling Operations** pertaining to these heavy piping objects within this Area had been methodically planned and documented before the associated work commenced and then, from the time it started, was carried out and concluded. As previously stated, the competent development of documented **Lift Plans** is commonly utilized in Energy related industries for difficult and complex lifting operations such that they can be managed and controlled safely. Once again, **Lift Plans** specify the equipment to be used and the roles, duties and responsibilities of all of its affected supervisors and workers. In my opinion, these failures were below the Energy Industry's standard of care and/or were otherwise erroneous.

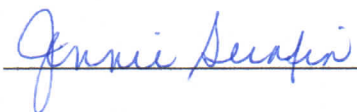
Further affiant sayeth naught:

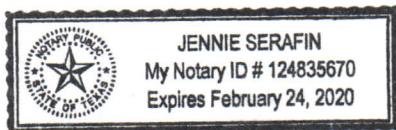




Gregg S. Perkin, P.E.
President and Principal Engineer
Engineering Partners International, LLC
Texas License No. 51881
Texas Registered Engineering Firm F8373

SUBSCRIBED AND SWORN TO before me by the said affiant, on this the 27,
day of December, 2017 to certify which witness my hand and seal of
office.





Addendum 1

Gregg S. Perkin, P.E.
 CEO/Principal Mechanical Engineer,
EngineeringPartners@msn.com

PROFESSIONAL SUMMARY:

- Mechanical Engineer with over forty eight (48) years of domestic and international experience in mechanical equipment and mechanical systems including their design, manufacture, assembly, testing, evaluation, use, maintenance and testing.
- Registered Professional Engineer by examination & comity in thirteen (13) states; California, Hawaii, Texas, North Carolina, Oklahoma, Wyoming, Montana, New Mexico, Arkansas, Alabama, Mississippi, Colorado and Louisiana.
- Expert witness in litigation and insurance related matters; thirty (30) years' experience in giving legal testimony as a forensic engineer relative to mechanical engineering and mechanical equipment design, safety systems, occupational safety & health, valves, atmospheric tanks & pressure vessels, power transmission, tools, machinery, forklifts, front-end loaders & lifting equipment, railways, railway incidents, railcars and their coupling systems, cranes, hoisting systems, lifting devices, rigging, conveyor systems, pipelines & pipeline safety, oil & gas drilling equipment, production and refining systems, natural gas and liquid propane storage, distribution and transportation.
- Experienced in various mechanical fields relative to conducting product liability, personal injury and accident reconstruction analysis.
- Author of technical manuals, computer programs and industry related papers.
- Safety expertise relating to industrial facilities, manufacturing, construction & production operations worldwide.
- Completed thirty two (32) hour Certified Safety Professional ("CSP") Review Course.
- Inventor & co-inventor; presently hold fourteen (14) US patents pertaining to mechanical systems.
- Instructor; Energy Training Solution & formerly at the University of Texas at Austin; Petroleum Extension Service ("PETEX"). Drilling & Production, Well Deepening Operations, Directional Drilling & Sidetracking, Pipeline Materials of Construction and Offshore Catastrophes; Lessons Learned, Engineering Fundamentals, Oil & Gas Safety.

PROFESSIONAL EXPERIENCE:

1996 to Present:

Engineering Partners International CEO, Principal Engineer

Merged previous employer PVA, Inc. into EPI. Conduct product liability, personal injury and accident reconstruction investigations and analysis relative to mechanical system design and operation. Expert in the design, use and evaluation of machines & mechanisms, tools & equipment to include vessels, tanks, cranes, hoisting systems, lifts, railway incidents and railcar couplers, threads & threading systems, conveyors, rotating & dynamic machinery. Expertise relative to matters involving energy, transportation & distribution systems, including their evaluation, distribution, usage and installation.

1995 to 1996:

PVA, Incorporated.
 Kingwood, (Houston), Texas
Principal Engineer

Development and evaluation of the design, use and application of mechanical engineering systems relative to offshore and onshore drilling, to include production and refining operations and other mechanical systems including tools & equipment, atmospheric tanks and pressure vessels and rotating & dynamic machinery. Experience and expertise relative to matters involving energy, natural gas and liquid propane (LP), transportation/distribution systems and the evaluation, use and installation of associated products and services. Expert in the use of finite element analysis for complex stress analysis problems (both elastic and plastic), heat transfer, dynamics and vibrations.



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 International, LLC*

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 (281) 358-6135 (facsimile)
 (800) 821-2284 (toll free)
 (800) 625-7857 (facsimile)

EPI Materials Testing Group ("EPI MTG"):

1146 Rayford Road
 Spring, TX 77386
 (281) 363-9997
 (281) 296-8720 (facsimile)
 (877) 374-6841 (toll free)

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Curriculum Vitae of Gregg S. Perkin, P.E.
Engineering Partners International, LLC (EPI)
January 2, 2017

- 1987 to 1994 CH&A Corporation
Kingwood (Houston), Texas
Senior Consulting Engineer, Principal Engineer
Same as Engineering Partners International, Inc. and PVA, Incorporated. Consultant to PEMEX (Petroleum Mexicanos) in 1993 relative to offshore safety systems. Co-author of three (3) technical papers published by the Society of Petroleum Engineers.
- 1986 to 1987 Cougar Tool, Incorporated, Division of Oil Patch Group
Houston, Texas and Edmonton, Alberta, Canada
Engineering Manager
Guided the development of new and improved products in the area of downhole drilling equipment used on a worldwide basis. Also, guided the development of downhole drilling tool projects including directional and straight hole drilling systems.
- 1985 to 1986 Lone Star Grinding, Incorporated
Houston, Texas
Vice President of Engineering
Responsible for the design of very accurate hardened and ground working and master thread gages conforming to the specifications of the American Petroleum Institute (API) and the American Society of Mechanical Engineers (ASME) specifications. Also, responsible for the creation of new gauging systems and quantifying them for the National Bureau of Standards. Past chairman of American Petroleum Institute (API) work groups relative to Non-Magnetic Drill Collars in Directional Drilling and Rotary Shouldered Connections.
- 1980 to 1985 LOR, Incorporated
Houston, Texas
Chief Engineer, Director of Manufacturing.
Responsible for overseeing the engineering, quality control and manufacturing departments. Personally designed, developed, field tested and supervised the development of numerous mechanical devices for oilfield purposes; some of which were patented. Author of LOR's Practical Product Guide and Functional Downhole Drilling Series. Directly responsible for plant safety and the installation of a fully operational metallurgical laboratory.
- 1969 to 1980 Servco, Division of Smith International, Incorporated
Los Angeles, California and Houston, Texas
Draftsman, Engineer Trainee, Design Engineer, Engineering Manager.
Personally designed, developed, field tested and supervised the development of numerous mechanical devices for oilfield purposes; some of which were patented. Worked as an Oilfield Roughneck, Derrickman and Serviceman both offshore and onshore during a training period after having graduated from college. Co-author of Servco's Handbook of Downhole Drilling & Completion Systems. Designed a series of products relative to enhanced recovery (EOR) in the areas of reverse circulation drilling and production.
- 1968 to 1969 Regan Forge & Engineering
San Pedro, California
Draftsman, Engineer Trainee
Responsibilities included working in the product design group relative to the design, use and application of offshore and onshore blow out prevention equipment, to include subsea production equipment. Attended Cal State University at Long Beach as a full time engineering student.

EDUCATION:

- Bachelor of Science in Mechanical Engineering from California State University at Long Beach, (1973)
- Attended graduate courses in Business Administration after graduation.
- Petroleum Extension Service (PETEX), University of Texas at Austin.
- Paul Munroe School of Hydraulic Equipment.
- American Management Association; Engineering Management & Fundamentals of Management
- Algor™; Finite Element Analysis techniques pertaining to linear and non-linear materials and mechanical event simulation

Curriculum Vitae of Gregg S. Perkin, P.E.
Engineering Partners International, LLC (EPI)
January 2, 2017

REGISTRATIONS:

Registered as a Professional Mechanical Engineer by examination and comity in California, Hawaii, Texas, North Carolina, Oklahoma, Wyoming, Montana, New Mexico, Arkansas, Alabama, Mississippi, Colorado and Louisiana

AFFILIATIONS & MEMBERSHIPS:

- American Petroleum Institute (API)
- Society of Petroleum Engineers (SPE)
- International Association of Drilling Contractors (IADC)
- American Society of Mechanical Engineers (ASME)
- National & Texas Societies of Professional Engineers (NSPE, TSPE).
- National Fire Protection Association (NFPA)
- Instrument Society of America (ISA)
- American Welding Society (AWS)
- Association of Energy Servicing Companies (AESC)
- American Society of Civil Engineers (ASCE)